

<b>SOP No. EM - 19</b>		<b>Page 1 of 3</b>
<b>Collection of Water Samples for Spinosad Immunoassay</b>		
<b>Revision: #2</b>	<b>Replaces: 4/8/02</b>	<b>Effective: 2/13/03</b>

**1. Purpose and Scope:** This SOP is specific to collecting water samples from stationary water bodies which might contain residues of Spinosad and will be analyzed by immunoassay technique (such as for MxFF/Medfly/Moscamed programs). This SOP describes how to handle, place, collect, store and ship these water samples. Instructions on water sampling in specific Environmental Monitoring Plan (EMP) for the Program supersedes these instructions.

**2. Supplies Required:** For sampling equipment and other supplies, contact the Laboratory Supplies Coordinator at the APHIS Analytical and Natural Products Chemistry Laboratory (ANPCL), in Gulfport, MS at (228) 822-3106, or 822-3134. Water stabilizer can be obtained from the company that developed the immunoassay kit; call Strategic Diagnostics, Inc. (SDI), Technical Support Group, (800)544-8881.

- 2.1 screw-top 8-9 ml test tubes
- 2.3 water stabilizer. **Note:** Additional supplies of this additive may be obtained from the SDI Technical Support Group (phone # above)
- 2.4 adjustable volume pipettor and pipette tips
- 2.5 parafilm
- 2.6 test tube rack
- 2.7 “grab sampler” (a device of your own making, which can clamp a small test tube and be extended 6 feet or more, to dip tube into water that is otherwise hard to reach).
- 2.8 field log book
- 2.9 ice chest with wet or blue ice (obtain locally)
- 2.10 environmental monitoring forms (APHIS Form 2060); preferably the forms containing a bar code in the upper right corner
- 2.11 indelible marker
- 2.12 pH paper

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2.13 thermometer

### 3. Collecting a Sample of Stationary Water:

- 3.1 before arriving at the field site, mark one of the test tubes on the outside with an indelible ink pen at the 8 ml level. This will be used as a reference in the field for all samples collected
- 3.2 in the field, unscrew a test tube and partially submerge the opening into the water body being sampled; fill nearly full. Compare with the marked reference level tube and dump some if above the line, or fill more if below the line  
-or-  
to obtain a sample from a deeper portion of the water body use the “grab sampler” device to do the same
- 3.3 add stabilizer to the collected water sample in the ratio of 1:100. An 8 ml sample will require 80  $\mu$ l of stabilizer. The pipettor should be set so that the numbers on the side read 080, as described in SOP-18 Use of Adjustable-Volume Pipettors
- 3.4 screw on the cap securely and wrap top with parafilm
- 3.5 label the sample with the indelible marker with a code that will allow the sample to be mated with its documentation -- use the bar code number from the 2060 form if using the newest version of the 2060, otherwise use the site ID, “pre” or “post” (treatment), and date.
- 3.6 place the sample into test tube rack in the ice chest with blue ice or regular ice to keep it chilled and out of sunlight until it can be transported from the field to the lab. Keep sample chilled
- 3.8 measure and record the temperature and pH of the water body being sampled (use pH paper supplied)

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#### **4. Record the Temperature and pH of the Water Body.**

- 4.1 measure the pH of the water body by dipping one end of a strip of pH paper into the sample. Estimate the pH by comparing the color of the wetted strip with the color chart of the pH paper container. Record the estimated pH of the water body on the 2060 form
- 4.5 dip the thermometer into the water body for one minute and record the temperature of the water body on the 2060 form

#### **5. Documentation:**

- 5.1 record all of your observations in the field log book (see SOP EM - 12, *Using a Field Log Book*). It is very important to record the estimated average depth and the surface area or size of the water body. Include GPS coordinates of the site, a sketch or annotated aerial photograph or topographical map of the site would be a great addition, as would photographs (disposable cameras work well in the field). Describe the canopy or vegetation which might affect deposition of spinosad on the water body. Describe any other factors that you think might influence the amount of pesticide being deposited on the water body or runoff into the water body.
- 5.2 complete an APHIS Form 2060 for each water sample
- 5.3 Once you have completed the APHIS Form 2060, retain the pink copy for your records and distribute the remaining copies as specified in the EMP